

AMENDMENTS TO THE CLAIMS

The listing of claims provided below will replace all prior versions, and listings, of claims in the application.

Listing of Claims

1-22. (Canceled)

23. (Currently amended) A method of identifying an agent that modulates the activity of a lepidopteran glutamate-gated chloride channel, wherein the chloride channel is in a host cell, a membrane preparation or an oocyte, and wherein said lepidopteran glutamate-gated chloride channel is comprised of polypeptides encoded by a nucleic acid sequence which is at least 90% homologous to the nucleic acid sequence encoded by of nucleotides 144 through 1484 of SEQ ID NO:13 and exhibits glutamate-gated chloride channel activity, comprising applying a putative agent to the lepidopteran glutamate-gated chloride channel in the presence of chloride ions and measuring flux of chloride through the channel, wherein a change in the flux of chloride is indicative of an agent that modulates activity.

24. (Canceled)

25. (Original) The method of Claim 23 wherein the chloride channel comprises the amino acid sequence of SEQ ID NO: 14.

26. (Currently amended) A method of identifying an agent that modulates the activity of a lepidopteran glutamate-gated chloride channel, wherein the chloride channel is in a host cell, a membrane preparation or an oocyte, and wherein said lepidopteran glutamate-gated chloride channel is comprised of polypeptides encoded by a nucleic acid sequence which is at least 90% homologous to the nucleic acid sequence encoded by of nucleotides 144 through 1484 of SEQ ID NO:13 and exhibits glutamate-gated chloride channel activity, comprising (i) applying

glutamate to the lepidopteran glutamate-gated chloride channel in the presence of chloride ions and measuring chloride flux; (ii) applying the putative agent and glutamate to the lepidopteran glutamate-gated chloride channel in the presence of chloride ions and measuring chloride flux; and (iii) comparing chloride flux in the presence and absence of the putative agent, wherein a change in chloride flux in the presence of the putative agent is indicative of an agent that modulates the activity of the lepidopteran glutamate-gated chloride channel.

27. (Canceled)

28. (Currently amended) The method of Claim 26 ~~27~~ wherein the chloride channel comprises the amino acid sequence of SEQ ID NO. 14.

29. (Currently amended) A method of identifying an agent that binds to a lepidopteran glutamate-gated chloride channel comprising (i) incubating a recombinant glutamate-gated chloride channel, wherein the chloride channel is in a host cell, a membrane preparation or an oocyte, and wherein said lepidopteran glutamate-gated chloride channel is comprised of polypeptides encoded by a nucleic acid having at least 90% homology to the sequence encoded by nucleotides 144 through 1484 of SEQ ID NO:13, with a radiolabeled ligand that specifically binds to the channel and a putative agent, and (ii) measuring the ability of the agent to inhibit specific binding of the labeled ligand to the channel, wherein inhibition, by the agent, of specific binding of labeled ligand indicates that the agent binds to a lepidopteran glutamate-gated chloride channel.

30-37. (Canceled)